

## **CHAPTER 4**

### **AFFECTED ENVIRONMENT**

The Affected Environment chapter describes the vicinity of the Gary/Chicago International Airport and defines the areas that could be affected by the proposed action. In the Affected Environment chapter, items such as the location of the study area, the human environment and land uses, demographics and socioeconomic information and the physical and natural environment are reviewed. Potential impacts from the proposed action to the resources discussed in the Affected Environment are evaluated in Chapter 5, Environmental Consequences, of this EIS.

#### **4.1 LOCATION OF STUDY AREA**

The Gary/Chicago International Airport is located in northern Indiana, just south of Lake Michigan in Lake County. For the purposes of the EIS, primary and secondary study areas have been defined. The primary area of interest includes the property currently owned by the airport and the area proposed for acquisition by the Gary/Chicago Airport Authority as part of the proposed action. This primary area of interest is illustrated in **Exhibit 4-1**. The secondary area of interest extends beyond the proposed airport property boundaries and is referred to throughout this chapter as the “study area”. The study area is also shown in Exhibit 4-1. It extends to adjacent properties that are within close proximity to the airport and has been based upon preliminary analysis conducted during the 2001 Airport Master Plan Update. The study area has been used as the boundaries for which data has been collected for the EIS, so that the surrounding environment of the Proposed Action can be described in a greater level of detail. The actions necessary to implement the remaining rail relocation alternatives are also located within the study area, although this relocation will not occur within the airport’s physical property boundaries. One element of the Proposed Action, which will not occur within the airport’s physical property boundaries or within the limits of the secondary study area, is the location of the wetland mitigation areas. Where possible, wetland mitigation will be proposed through an existing wetland bank. It is anticipated that some portion of the wetland mitigation, which is required because of the disturbance of remnant dune and swale, may require the creation or preservation of new replacement dune and swale areas. In order to comply with FAA requirements to limit the introduction of new wildlife attractants in the vicinity of the airport, these replacement wetland mitigation areas will be located outside of the primary and secondary study areas. Although these potential mitigation areas are outside of the study area, they have been considered and addressed as a part of the environmental consequences analysis presented in Chapter 5, Environmental Consequences, of this EIS.

#### **4.2 HUMAN ENVIRONMENT AND LAND USE**

The Gary/Chicago International Airport is located in the northwest portion of the City of Gary. The study area also includes a portion of the City of East Chicago (see **Exhibit 4-2**). Cline Avenue serves as the boundary between the two cities.



Source: Aerofinity, Inc., 2003.

LEGEND	
<b>Primary Area</b>	
	Airport Property
	Proposed Acquisition by Airport Authority
Note: An easement will also be required west of Cline Avenue	
<b>Secondary Area</b>	
	Study Area Boundary

North

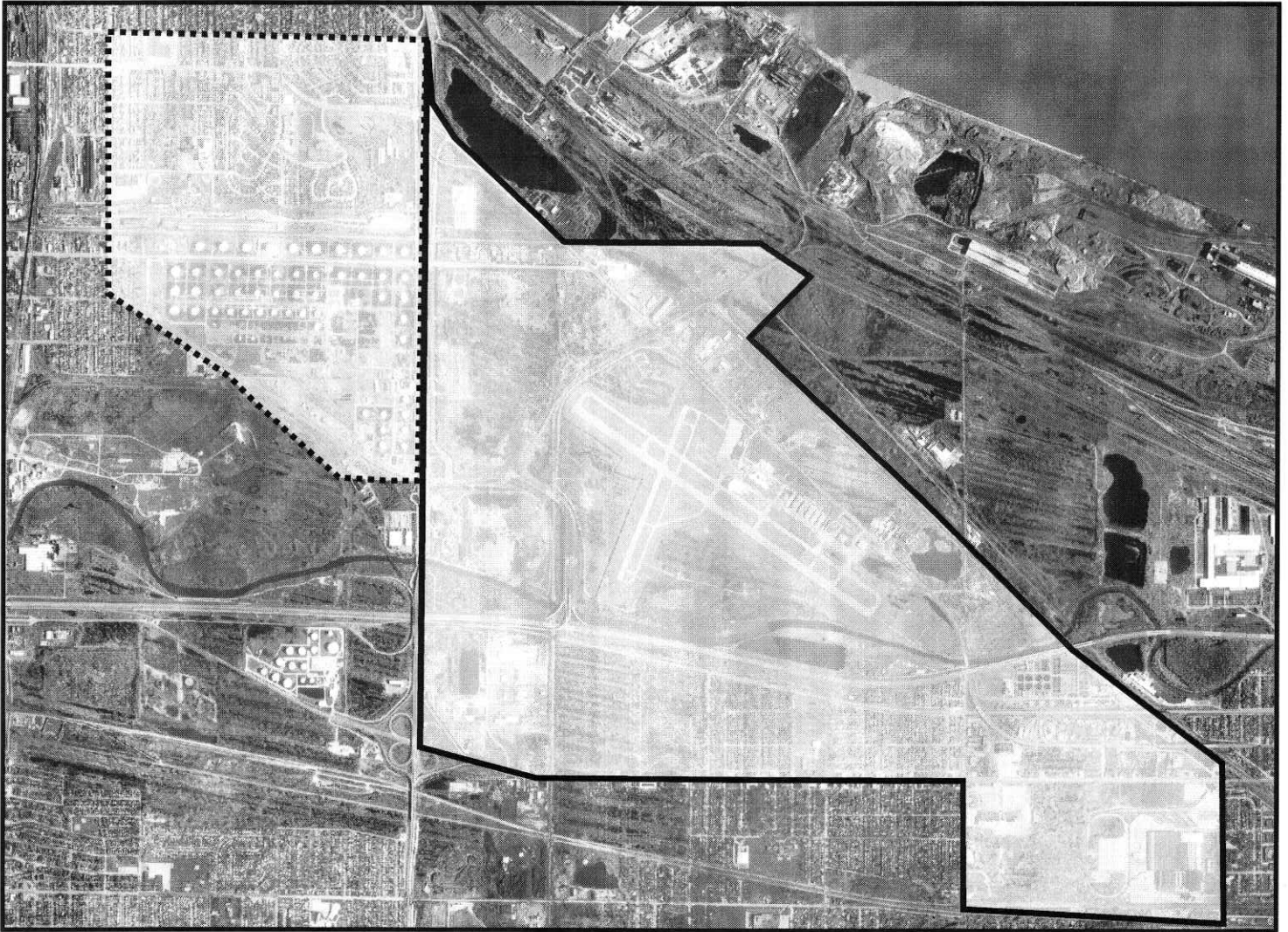


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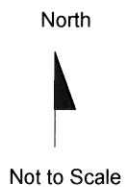
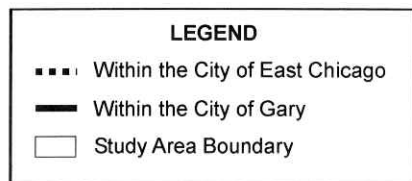


## EXHIBIT 4-1 Primary and Secondary Areas of Interest

April 8, 2004



Source: The Louis Berger Group Analysis, 2002.



## EXHIBIT 4-2

### Portions of Study Area within Gary and East Chicago City Limits

April 8, 2004

The portion of the study area in East Chicago is bounded by 140<sup>th</sup> Street to the north, Euclid Avenue to the west, Gary Avenue to the south and Cline Avenue to the east. Notable boundaries for the portion of the study area in Gary include: on the north, the CSX Barr Sub rail line located north of Industrial Highway<sup>1</sup>; on the west, Cline Avenue; on the south, West 5<sup>th</sup> Avenue<sup>2</sup>; and on the east, Chase Street.

The study area consists of a variety of land uses, such as residential, community services, industrial, manufacturing, commercial, and transportation facilities. A majority of the study area is zoned industrial/manufacturing with two notable areas zoned residential. Additionally, there are a few commercial corridors and an area zoned for commercial activities. The majority of the study area that lies within the City of Gary is part of an 8,200 acre Airport Development Zone (ADZ), which was established in 1993 to provide economic revitalization in the area surrounding the airport.

A detailed discussion regarding existing land use, which includes future land use, and zoning within the project study area is presented in the following sections. Inconsistencies found between existing land use and zoning are also discussed.

#### **4.2.1 Existing Land Use**

The portion of the study area that lies within the City of East Chicago, which is northwest of the airport and west of Cline Avenue, consists of a residential neighborhood, which includes a mix of community services, and industrial uses (see **Exhibit 4-3**, which should be referred to throughout this section). The residential neighborhood is characterized by single family detached houses, a few parks and schools, a hospital, and small to medium-scale commercial activity along Columbus Drive and Main Street (see **Exhibit 4-4**). The industrial area south of East Chicago Avenue consists of heavy industrial uses while the area north of East Chicago Avenue consists of light industrial/manufacturing uses.

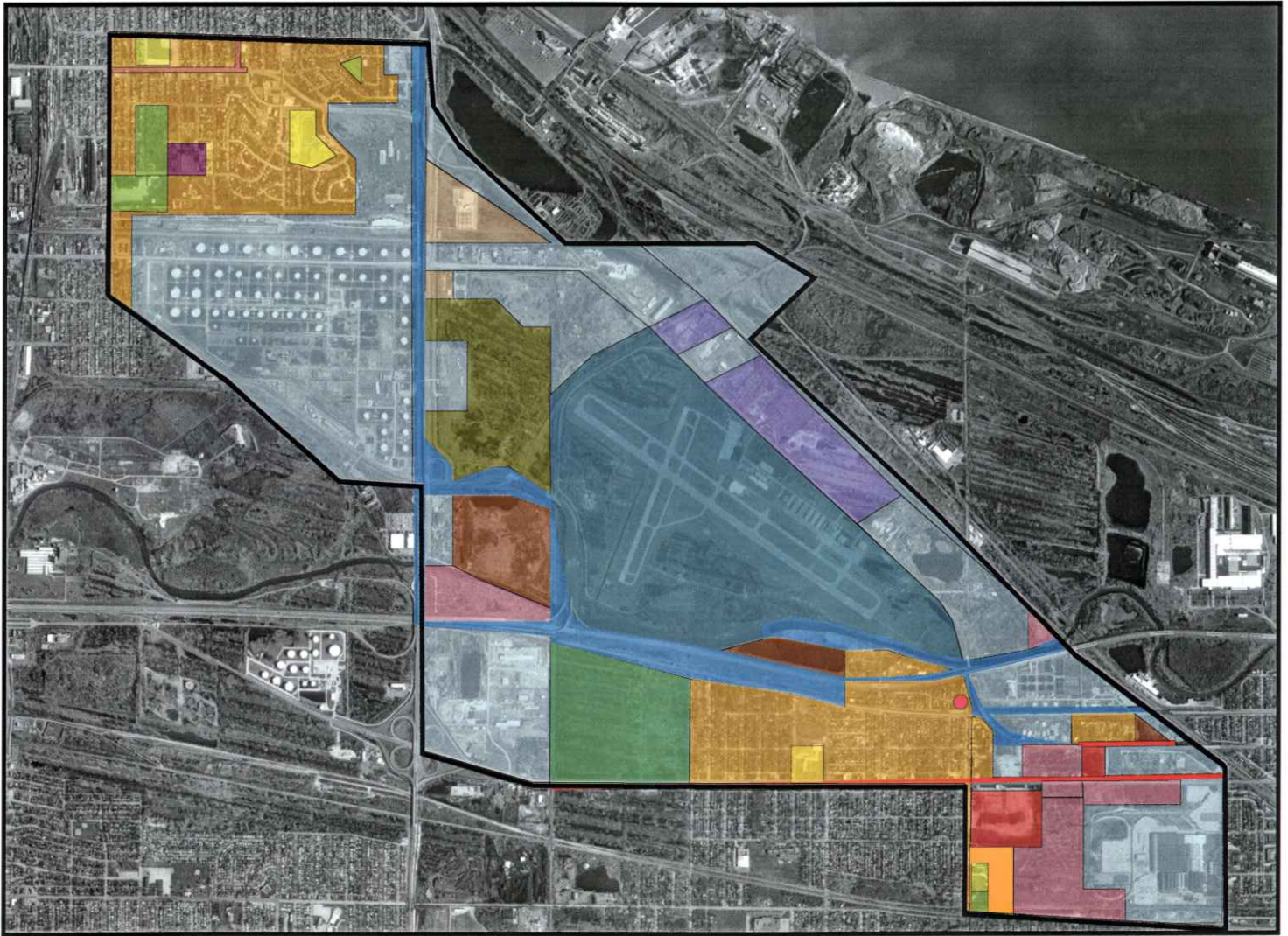
Land use within the portion of the study area that is located in the City of Gary is fairly diverse. The area west of the airport includes a vacant area just north of I-90, an undeveloped area and industrial use north of the vacant area, and utility and industrial uses further north. The area to the north and east of the airport along Industrial Highway and north of I-90 includes industrial/manufacturing uses, land that is owned by the airport but presently unused, and a small vacant area.

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<sup>1</sup> Industrial Highway is currently designated as US 12. The City of Gary is in the process of filing a request with the Indiana Department of Transportation to reroute the US designation south to 5<sup>th</sup> Avenue (SR 20), west to Cline Avenue (912), and north to East Columbus Drive. Chicago Avenue, which is designated as 312, currently intersects with Industrial Highway. If the rerouting of the US 12 designation occurs, 312 will end at Industrial Highway.

<sup>2</sup> West 5<sup>th</sup> Avenue is currently designated as SR 20.





Source: The Louis Berger Group Analysis, 2002.



## EXHIBIT 4-3 General Existing Land Use

April 8, 2004





Source: The Louis Berger Group Analysis, 2002.



Photo 1  
Residential street in East Chicago



Photo 2  
Commercial uses along Columbus Drive in East Chicago



## EXHIBIT 4-4 East Chicago Land Use

April 8, 2004

There is a small sliver of land just south of the airport and north of I-90 that includes some single-family detached houses and undeveloped land. South of I-90 between Cline Avenue and Clark Street (going from west to east) there are industrial uses, a nature conservancy, and a large residential neighborhood, which primarily consists of single family detached houses, a few schools and a park (see **Exhibit 4-5**). Additionally, West 5th Avenue serves as a major commercial corridor and arterial. There is a passenger rail line that stops just south of I-90 and west of Clark Street (see **Exhibit 4-6**).

The area southeast of the airport (south of I-90 and east of Clark Street) and north of West 5th Avenue includes some light industrial uses, a large apartment complex (which is along Clark Street), a mobile home park, a small undeveloped area, a few commercial uses and a vacant area (see **Exhibit 4-7**). Also, a small portion of Industrial Highway east of Bigger Street serves as a commercial corridor.

The area southeast of the airport and south of West 5th Avenue consists of a large light industrial site along Chase Street, notable vacant areas, a recently redeveloped shopping center along West 5th Avenue, some single family detached homes, and a school and park along Clark Street (see **Exhibit 4-8**). Like the section of West 5th Avenue west of Clark Street, the section east of Clark Street serves as a major commercial corridor and arterial.

#### **4.2.2 Future Land Use**

The City of East Chicago and Gary Planning Departments were consulted regarding future land use and developments currently underway or under review. In both cases, there was no current future land use plan or map that could be obtained, and there were no significant developments occurring or being reviewed within the project study area. Several highway improvement programs are scheduled to occur in this area in the foreseeable future. These highway improvements have been described and considered in Chapter 6, Cumulative Impacts, of this EIS.

Where wetland mitigation areas are proposed outside of the study area, any offsite potential mitigation locations will be coordinated with the local municipality to ensure future land use compatibility prior to the establishment of the wetland mitigation site.

#### **4.2.3 Zoning**

The majority of the study area is zoned residential or industrial/manufacturing (see **Exhibit 4-9**, which should be referred to throughout this section). Additionally, nearly all of the study area within the City of Gary, with the exception of a small portion southeast of the airport and south of West 5th Avenue, is within the Airport Development Zone, which was discussed previously.



Source: The Louis Berger Group Analysis, 2002.



Residential street south of I-90

North



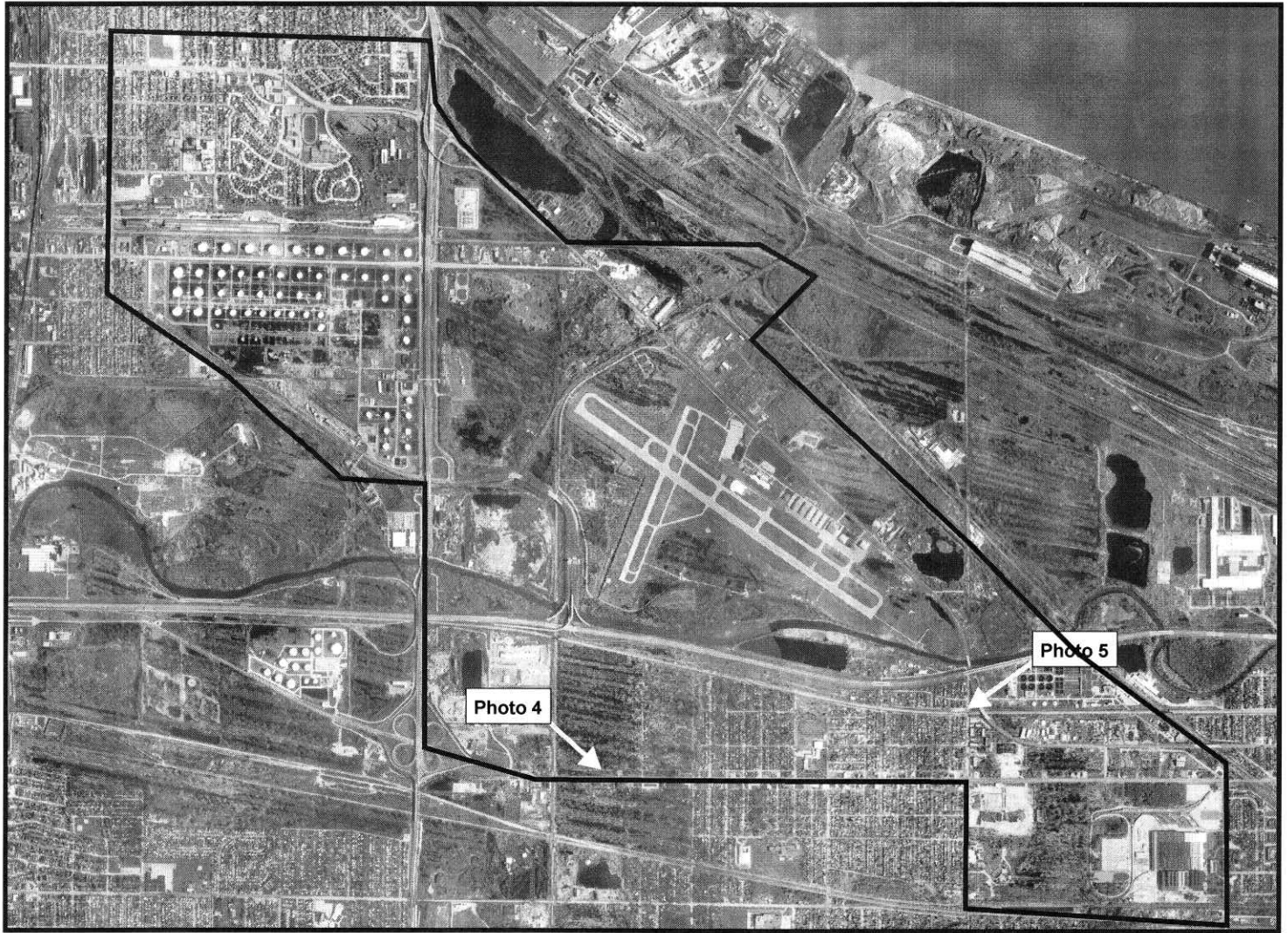
Not to Scale



## EXHIBIT 4-5 City of Gary Land Use

April 8, 2004





Source: The Louis Berger Group Analysis, 2002.



Photo 4  
Natural area along West 5th Avenue

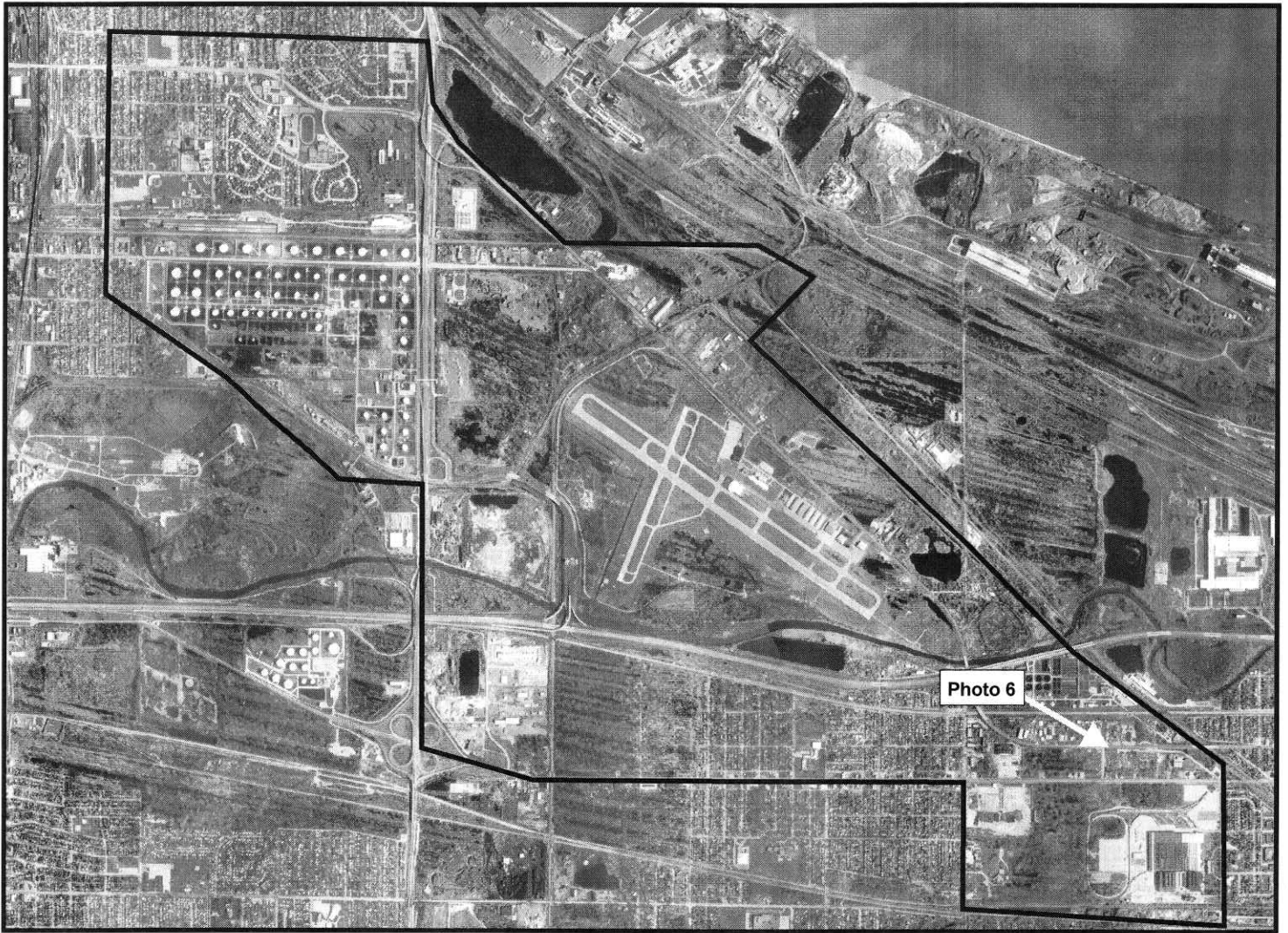


Photo 5  
Passenger rail station along Clark Street just south of I-90



# EXHIBIT 4-6 City of Gary Land Use

April 8, 2004



Source: The Louis Berger Group Analysis, 2002.



North



Not to Scale

Photo 6

Looking north through the Bigger Street/US 12 intersection with a mobile home park in the background and commercial uses to the left and right



## EXHIBIT 4-7 City of Gary Land Use

April 8, 2004





Source: The Louis Berger Group Analysis, 2002.

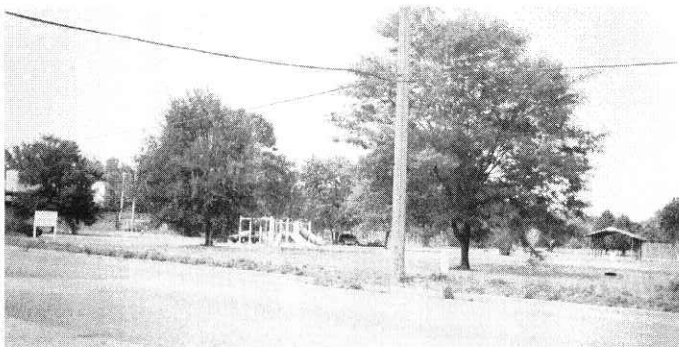



Photo 7  
School and park along Clark Street south of the  
redeveloped shopping center

North  
  
 Not to Scale



## EXHIBIT 4-8 City of Gary Land Use

April 8, 2004





Source: The Louis Berger Group Analysis, 2002.

**LEGEND**

- Residential w/ Community Services
- Commercial
- Industrial/Manufacturing
- Airport Development Zone
- Study Area Boundary

North  
  
 Not to Scale



## EXHIBIT 4-9 General Zoning

April 8, 2004

The portion of the study area north of I-90 is predominantly zoned industrial/manufacturing with the exception of the far northeast corner in East Chicago, which is mostly zoned residential with some commercial zoning along East Columbus Drive and Main Street, and a small area southeast of the airport just north of I-90 that is zoned residential.

The area south of I-90 between Cline Avenue and Clark Street is zoned industrial/manufacturing near Cline Avenue, residential between the north-south rail line and Clark Street, and commercial along West 5th Avenue.

Most of the study area southeast of the airport (south of I-90 and east of Clark Street) is zoned commercial and industrial/manufacturing, with the exception of two areas along Clark Street that are zoned residential.

#### **4.2.4 Land Use-Zoning Inconsistencies**

Existing land use is generally consistent with zoning in the project study area. However, there are some areas where the two are inconsistent with one another (see **Exhibit 4-10**, which should be referred to throughout this section). These inconsistencies are summarized below.

- In the northwest portion of the study area there is an area that is zoned residential but is currently used for industrial/manufacturing purposes.
- South of I-90 near Cline Avenue there is an area north of West 5th Avenue that is zoned residential but is used as a nature conservancy.
- Just north of I-90 but south of the airport there is an area that is zoned industrial/manufacturing but is used for residential purposes.
- There is a small area along Industrial Highway just north of I-90 that is zoned residential but is used for industrial/manufacturing purposes.
- Along Industrial Highway east of Clark Street there are a few areas that are zoned commercial but used for industrial/manufacturing purposes and one area that is zoned commercial but used for residential purposes.





Source: *The Louis Berger Group Analysis, 2002.*

North



Not to Scale

#### LEGEND

- Zoning = Residential,  
Land Use = Industrial/Manufacturing
- Zoning = Residential,  
Land Use = Nature Conservancy
- Zoning = Industrial/Manufacturing  
Land Use = Residential
- Zoning = Commercial,  
Land Use = Industrial/Manufacturing
- Zoning = Commercial  
Land Use = Residential
- Study Area Boundary



### EXHIBIT 4-10 Land Use Zoning Inconsistencies

April 8, 2004



### 4.3 DEMOGRAPHICS AND SOCIOECONOMICS

The demographic and socioeconomic data included in the 2001 Airport Master Plan was collected in 1997. It has been reviewed and updated to include historical data through 2001.<sup>3</sup> The forecast data used in the 2001 Airport Master Plan has continued to be used in this EIS, as it was the basis of the master planning recommendations.

#### 4.3.1 Population

The City of Gary is located in the Gary-Hammond Primary Metropolitan Statistical Area (PMSA), a region of approximately 630,000 people. With a 2000 population of 102,746, the City of Gary is the largest municipality in the metropolitan area. The Gary PMSA includes Lake and Porter counties in Indiana. The City is located in Lake County, the second most populous county in the State, and has 21 percent of the County's population of 484,564 and 16 percent of the PMSA's population of 631,827. The Chicago Consolidated Metropolitan Statistical Area (CMSA), as defined by the U.S. Department of Commerce, includes the Gary metropolitan area, as well as Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois, and Kenosha County in Wisconsin.<sup>4</sup>

The Gary PMSA experienced a modest increase in population the 1990-2000 decade according to Census records.<sup>5</sup> In 1990, the Gary PMSA had a population of approximately 604,526 people; by 2000, the population had grown to 631,827 an increase of 4.5 percent. The PMSA population, like the county population ranks second in the state. The State's percentage population increase during the same period was about 9.7 percent, indicating that Gary PMSA population growth lagged behind the State of Indiana during this decade.<sup>6</sup>

**Exhibit 4-11** shows historical and projected population for the Gary PMSA, the Chicago CMSA, and the United States.<sup>7</sup> Forecasts from the BEA Regional Projections to 2045, developed by the Bureau of Economic Analysis (BEA) in the U.S. Department of Commerce, are also presented. The BEA forecasts were published in 1995 and use 1993 base year data. No later information is available; the next edition is scheduled to be published in December 2004.

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<sup>3</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

<sup>4</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

<sup>5</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

<sup>6</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

<sup>7</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

**EXHIBIT 4-11**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**  
**Historic and Projected Population**

Year	Gary PMSA (a)	Chicago CMSA (b)	Gary PMSA Percent of Chicago CMSA	United States	Gary PMSA Percent of United States
<b>Historic (c)</b>					
1969	627,718	7,884,519	8.0%	201,298,000	0.31%
1970	634,937	7,960,969	8.0%	203,798,700	0.31%
1971	640,963	8,021,008	8.0%	206,817,500	0.31%
1972	637,906	8,038,716	7.9%	209,274,900	0.30%
1973	641,826	8,030,662	8.0%	211,349,200	0.30%
1974	640,063	8,037,822	8.0%	213,333,600	0.30%
1975	639,479	8,052,519	7.9%	215,456,600	0.30%
1976	641,686	8,078,561	7.9%	217,553,900	0.29%
1977	641,612	8,110,675	7.9%	219,760,900	0.29%
1978	643,816	8,131,967	7.9%	222,098,200	0.29%
1979	646,714	8,119,706	8.0%	224,564,100	0.29%
1980	641,619	8,114,714	7.9%	227,224,700	0.28%
1981	635,735	8,099,109	7.8%	229,465,700	0.28%
1982	631,584	8,107,670	7.8%	231,664,400	0.27%
1983	623,113	8,103,850	7.7%	233,792,000	0.27%
1984	616,881	8,126,526	7.6%	235,824,900	0.26%
1985	610,119	8,129,629	7.5%	237,923,700	0.26%
1986	599,626	8,135,133	7.4%	240,132,800	0.25%
1987	595,493	8,156,495	7.3%	242,288,900	0.25%
1988	597,140	8,174,093	7.3%	244,499,000	0.24%
1989	601,425	8,210,335	7.3%	246,819,200	0.24%
1990	605,703	8,255,268	7.3%	249,439,500	0.24%
1991	610,198	8,314,721	7.3%	252,124,400	0.24%
1992	613,270	8,382,241	7.3%	255,001,800	0.24%
1993	615,280	8,442,295	7.3%	257,752,700	0.24%
1994	617,388	8,496,928	7.3%	260,292,400	0.24%
1995	619,799	8,542,912	7.3%	262,760,600	0.24%
1996	621,132	8,590,176	7.2%	265,179,400	0.23%
1997	628,082	8,922,478	7.0%	272,646,925	0.23%
1998	629,409	9,008,677	7.0%	275,854,104	0.23%
1999	630,607	9,095,126	6.9%	279,040,168	0.23%
2000	631,922	9,179,908	6.9%	282,224,348	0.22%
2001	634,458	9,266,113	6.8%	285,317,559	0.22%
<b>Projections (d)</b>					
2005	629,600	9,218,900	6.8%	288,287,000	0.22%
2010	639,200	9,535,900	6.7%	300,430,000	0.21%
2015	652,900	9,880,100	6.6%	313,117,000	0.21%
2020	669,600	10,225,700	6.5%	325,727,500	0.21%
2025	686,200	10,571,200	6.5%	338,338,000	0.21%

(a) Includes Lake and Porter Counties.

(b) Includes Lake and Porter Counties in Indiana, and Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois and Kenosha County in Wisconsin.

(c) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS).

(d) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS).

Sources: Airport Master Plan, HNTB, 2001, U.S. Department of Commerce, Bureau of Economic Analysis, February 2004.

The decline in the steel industry and subsequent reduction in the Gary workforce produced economic decline in the area and fueled a shift in residential development from Gary, Hammond, and East Chicago to communities in the Southern portions of Lake County and adjacent counties.

Population in the Gary PMSA grew in the 1970s, declined with the loss of manufacturing employment in the 1980s, and has since begun to recover in the 1990s. Over the same period, the Gary PMSA population fell as a share of both the Chicago CMSA and the United States. In 1997, the Gary PMSA population was at about the same level as 1969.

The BEA forecasts project the Gary PMSA population to grow moderately over the next 25 years at a 0.3 percent average annual rate. However, the Gary PMSA share of the Chicago CMSA and U.S. population is projected to continue to decline. The BEA forecast is based on the U.S. Census Bureau (middle series) projections. It is very similar to recent projections developed by Indiana University, which forecast 672,678 people in the Gary PMSA by 2020, a difference of less than 1.0 percent.<sup>8</sup>

**Exhibit 4-12** compares the transition that the Gary PMSA economy has experienced over the past quarter of a century with the Chicago CMSA and the United States. The Gary PMSA economy still has a greater concentration in the manufacturing sector as compared to Chicago and the U.S., which have greater concentrations in sectors such as the service industry, finance, insurance, and real estate.

The Outlook '99 edition of Indiana Business Review (December 1998)<sup>9</sup>, noted several items about the regional employment outlook that are of interest. Although there are more recent editions of the Indiana Business Review available, the summary below is found to be very relevant to the 2001 Airport Master Plan information presented in this chapter and still of interest. These items are listed as follows:

- Between 1994 and 1998, the Gary PMSA's total employment has grown at an annual rate of nearly 2.4 percent.
- The rapid increases in service employment, almost 20 percent over 4.5 years, are a result of the opening of the lake-based casino operations. The lake-based casino development will not be repeated in the near future; therefore, more abrupt and large increases in the service sector are not expected. There is also the possibility for a sharp drop when Rosemont's casino is in place. (The panel of local economic and industry leaders also noted the leveling off of casino employment growth.)<sup>10</sup> Other types of lakefront development may fuel future growth.

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<sup>8</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <http://www.bea.doc.gov/BEA/REGIONAL/reis>.

<sup>9</sup> A periodical that provides a monthly overview of local and national economic trends.

<sup>10</sup> A group of local economic and industry leaders was asked to participate in an advisory capacity in the 2001 Master Plan Update by offering observations and insights that might be useful in the planning process. The panel convened on April 13, 1999.



**EXHIBIT 4-12**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**  
**Distribution of Employment: 1969-2001**

	<b>Gary PMSA</b>		<b>Chicago CMSA</b>		<b>United States</b>	
	<b>1969</b>	<b>2001</b>	<b>1969</b>	<b>2001</b>	<b>1969</b>	<b>2001</b>
Farm	2,311	1,254	20,884	12,140	3,978,000	3,075,000
Agricultural Services, etc.	240	D	7,010	D	506,200	908,100
Mining	133	D	6,954	D	734,500	783,200
Construction	18,000	20,761	174,935	288,932	4,470,800	9,841,800
Manufacturing	107,719	43,247	1,147,196	612,500	20,546,000	17,025,100
Transportation & Public Utilities	15,302	D	233,278	226,524 E	4,795,900	6,086,900
Wholesale Trade	6,841	11,136	246,783	274,620	4,097,900	6,323,300
Retail Trade	38,266	39,899	569,275	557,621	13,448,900	18,679,100
Finance, Insurance, Real Estate	10,360	18,651	256,235	553,052	5,914,900	13,745,400
Services	33,699	124,686	674,562	2,360,261	16,723,100	67,903,700
Federal Government	1,772	2,162	81,559	45,356	2,919,000	2,097,000
Military	4,197	2,082	68,369	63,293	3,419,000	2,728,000
State & Local Government	21,608	35,171	314,670	503,507	9,503,000	18,339,000
Total Employment	260,448	316,981	3,803,579	5,535,278	91,057,200	167,535,600
<b>Distribution by Percent</b>						
Farm	0.9%	0.4%	0.5%	0.2%	4.4%	1.9%
Agricultural Services, etc.	0.1%	NA	0.2%	NA	0.6%	1.3%
Mining	0.1%	NA	0.2%	NA	0.8%	0.5%
Construction	6.9%	6.4%	4.6%	5.0%	4.9%	5.7%
Manufacturing	41.4%	15.1%	30.2%	12.8%	22.6%	11.4%
Transportation & Public Utilities	5.9%	5.1%	6.1%	5.8%	5.3%	4.9%
Wholesale Trade	2.6%	4.1%	6.5%	5.7%	4.5%	4.5%
Retail Trade	14.7%	18.7%	15.0%	14.9%	14.8%	16.3%
Finance, Insurance, Real Estate	4.0%	5.6%	6.7%	9.8%	6.5%	8.1%
Services	12.9%	31.5%	17.7%	32.3%	18.4%	31.8%
Federal Government	0.7%	0.7%	2.1%	1.3%	3.2%	1.7%
Military	1.6%	0.7%	1.8%	0.8%	3.8%	1.3%
State & Local Government	8.3%	10.1%	8.3%	8.9%	10.4%	10.6%
Total Employment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*D – Not shown to avoid disclosure of confidential information, but estimates included in the total.*

*E – The estimate shown here constitutes the major portion of the true estimate.*

*Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS), February 2004.*

- The study concludes that the growth of the regional economy appears to be moderating from its recent rapid pace, but is still continuing to grow. The Gary PMSA is more cyclically sensitive than the State or nation because of its continued manufacturing specialization.<sup>11</sup>

<sup>11</sup> Gary/Chicago Airport Authority, prepared by HNTB Corporation. *Gary/Chicago Airport Master Plan Update*. Chapter 3. November 2001.

The panel of local economic and industry leaders, which convened during the 2001 Master Plan Update process, noted the following ongoing trends and developments in the Gary region:

- No additional construction of steel mills is anticipated. As existing steel mills are renovated, they become more productive while requiring less labor.
- Because of environmental factors, no new steel plants are anticipated in the area.
- As some of the more obsolete steel mills are shut down, the property may become available for other industries.
- Most visitors to the casinos are local, rather than overnight; however, five new hotels have opened this year, and Lake County is indicating an increase in visitors to the area. This rate of growth may not continue at such a fast pace in the future.<sup>12</sup>

**Exhibit 4-13** shows historical and projected employment for the Gary PMSA, the Chicago CMSA, and the United States. Over the past 30 years, employment in the Gary PMSA has grown more rapidly than the population. This is primarily due to the maturing of the “baby boomer” generation and significant increases in the number of women in the work force. The BEA projects employment to continue growing through the forecast period, but projects the rate of increase to decline in the later years as an increasing number of people enter retirement age.<sup>13</sup>

#### **4.3.2 Income**

**Exhibit 4-14** shows historical and projected real income in the Gary PMSA over the past 30 years, presented in 1998 dollars. During that time, income in the Gary PMSA grew at a 1.6 percent annual rate, compared to 2.3 percent for the Chicago CMSA and 3.0 percent in the United States over the same period. The BEA projects real income in the Gary PMSA to increase at a 1.1 percent average annual rate through 2025.<sup>14</sup>

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<sup>12</sup> A group of local economic and industry leaders was asked to participate in an advisory capacity in the 2001 Master Plan Update by offering observations and insights that might be useful in the planning process. The panel convened on April 13, 1999.

<sup>13</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

<sup>14</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

**EXHIBIT 4-13**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**  
**Historic and Projected Employment**

Year	Gary PMSA (a)	Chicago CMSA (b)	Gary PMSA Percent of Chicago CMSA United States	United States	Gary PMSA Percent of United States
Historic(c)					
1969	260,448	3,803,579	6.8%	91,057,200	0.29%
1970	260,659	3,775,172	6.9%	91,281,600	0.29%
1971	253,229	3,730,117	6.8%	91,586,400	0.28%
1972	257,135	3,758,117	6.8%	94,317,200	0.27%
1973	270,907	3,902,228	6.9%	98,432,500	0.28%
1974	275,837	3,963,882	7.0%	100,117,800	0.28%
1975	268,403	3,859,497	7.0%	98,906,600	0.27%
1976	275,695	3,946,378	7.0%	101,597,200	0.27%
1977	287,005	4,061,150	7.1%	105,049,200	0.27%
1978	296,060	4,193,581	7.1%	109,687,600	0.27%
1979	303,888	4,246,294	7.2%	113,288,100	0.27%
1980	287,829	4,158,171	6.9%	114,231,200	0.25%
1981	282,188	4,150,695	6.8%	115,304,000	0.24%
1982	264,646	4,063,759	6.5%	114,521,300	0.23%
1983	255,012	4,032,149	6.3%	116,019,700	0.22%
1984	253,928	4,194,617	6.1%	121,051,100	0.21%
1985	254,555	4,255,436	6.0%	124,472,700	0.20%
1986	250,061	4,347,376	5.8%	126,941,200	0.20%
1987	260,620	4,484,734	5.8%	130,371,400	0.20%
1988	273,789	4,626,527	5.9%	134,675,900	0.20%
1989	281,454	4,713,031	6.0%	137,317,700	0.20%
1990	288,487	4,773,007	6.0%	139,184,600	0.21%
1991	290,529	4,760,706	6.1%	138,785,800	0.21%
1992	288,768	4,737,769	6.1%	139,410,800	0.21%
1993	291,711	4,819,411	6.1%	142,005,500	0.21%
1994	297,255	4,943,634	6.0%	145,650,300	0.20%
1995	299,646	5,081,200	5.9%	149,444,500	0.20%
1996	305,837	5,162,658	5.9%	152,313,900	0.20%
1997	313,331	5,248,725	6.0%	156,230,200	0.20%
1998	317,053	5,378,347	5.9%	160,256,200	0.20%
1999	319,547	5,448,106	5.9%	163,348,300	0.20%
2000	317,119	5,554,874	5.8%	167,283,800	0.19%
2001	312,745	5,535,278	5.7%	167,535,600	0.19%
Projections (d)					
2005	328,700	5,773,100	5.7%	172,802,900	0.19%
2010	337,400	6,021,900	5.6%	181,397,900	0.19%
2015	342,800	6,197,400	5.5%	187,604,000	0.18%
2020	344,200	6,276,500	5.5%	190,764,200	0.18%
2025	345,600	6,355,500	5.4%	193,924,400	0.18%

(a) Includes Lake and Porter Counties.

(b) Includes Lake and Porter Counties in Indiana, and Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois and Kenosha County in Wisconsin.

(c) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS).

(d) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS) growth rates applied to 1996 levels.

Sources: Airport Master Plan, HNTB, 2001, U.S. Department of Commerce, Bureau of Economic Analysis, February 2004.



**EXHIBIT 4-14**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**  
**Historical and Projected Income (thousands of 1998 Dollars)**

Year	Gary PMSA (a)	Chicago CMSA (b)	Gary PMSA Percent of Chicago CMSA	United States	Gary PMSA Percent of United States
<b>Historic (c)</b>					
1969	9,900,100	150,032,700	6.6%	3,143,507,900	0.31%
1970	9,872,200	151,583,500	6.5%	3,226,573,000	0.31%
1971	9,931,200	154,624,500	6.4%	3,325,028,000	0.30%
1972	10,553,300	161,777,100	6.5%	3,530,164,200	0.30%
1973	11,303,400	170,004,900	6.6%	3,751,278,900	0.30%
1974	11,462,700	169,531,400	6.8%	3,745,228,400	0.31%
1975	11,276,700	166,481,300	6.8%	3,759,437,600	0.30%
1976	11,983,700	174,254,400	6.9%	3,938,615,900	0.30%
1977	12,631,900	181,286,300	7.0%	4,089,991,900	0.31%
1978	13,259,600	188,218,800	7.0%	4,306,141,100	0.31%
1979	13,544,300	190,410,600	7.1%	4,444,752,000	0.30%
1980	12,747,300	187,202,200	6.8%	4,476,692,900	0.28%
1981	12,805,800	188,814,100	6.8%	4,595,207,300	0.28%
1982	12,124,400	185,841,000	6.5%	4,616,833,900	0.26%
1983	11,641,500	186,091,200	6.3%	4,705,848,800	0.25%
1984	11,805,300	196,850,400	6.0%	5,017,539,400	0.24%
1985	11,802,800	200,475,500	5.9%	5,190,722,700	0.23%
1986	11,660,700	206,423,200	5.6%	5,353,748,400	0.22%
1987	11,966,600	212,015,900	5.6%	5,480,176,800	0.22%
1988	12,450,600	219,353,100	5.7%	5,665,939,800	0.22%
1989	12,795,500	221,996,500	5.8%	5,808,003,900	0.22%
1990	12,975,400	224,722,900	5.8%	5,899,721,500	0.22%
1991	12,870,600	223,671,900	5.8%	5,871,128,300	0.22%
1992	13,117,000	232,246,000	5.6%	6,024,993,100	0.22%
1993	13,462,300	236,409,500	5.7%	6,144,128,800	0.22%
1994	13,935,900	242,855,200	5.7%	6,289,672,000	0.22%
1995	14,260,800	252,695,100	5.6%	6,515,259,900	0.22%
1996	14,670,200	259,989,000	5.6%	6,717,805,400	0.22%
1997	15,104,012	272,820,027	5.5%	7,036,466,262	0.21%
1998	15,702,006	287,182,573	5.5%	7,418,497,000	0.21%
1999	16,197,323	298,060,706	5.4%	7,779,521,000	0.21%
2000	17,240,331	321,557,021	5.4%	8,398,871,000	0.21%
2001	17,824,564	331,277,310	5.4%	8,677,490,000	0.21%
<b>Projections (d)</b>					
2005	16,826,000	311,254,000	5.4%	8,090,965,000	0.21%
2010	17,968,000	337,634,000	5.3%	8,856,248,000	0.20%
2015	19,131,000	363,657,000	5.3%	9,615,082,000	0.20%
2020	20,357,000	389,566,000	5.2%	10,378,604,500	0.20%
2025	21,583,000	415,475,000	5.2%	11,142,127,000	0.19%

(a) Includes Lake and Porter Counties.

(b) Includes Lake and Porter Counties in Indiana, and Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois and Kenosha County in Wisconsin.

(c) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS).

(d) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS) growth rates applied to 1996 levels.

Sources: Airport Master Plan, HNTB, 2001, U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System and Aerofinity analysis, February 2004.

**Exhibit 4-15** presents historical and forecast real per capita income, expressed in 1998 dollars. Per capita income in the Gary PMSA grew at a 1.6 percent average annual rate over the past 30 years. Over that time, the Gary PMSA per capita income decreased slightly with respect to Chicago CMSA and national averages. The BEA per capita income forecasts project a 0.8 percent average annual increase in the Gary PMSA over the next 25 years.<sup>15</sup>

#### **4.3.3 Socioeconomic Summary**

The communities of the Gary PMSA have undergone many of the economic changes that have affected other urban cities, including community disinvestment, changes in the mix of manufacturing due to technological improvements and foreign competition, and the growth of suburban development. As the nation's economy began to shift from a manufacturing-based economy to a service economy, tolerance lessened for industries that expelled dust, chemicals, and other pollutants. Industries encountered new challenges, including an aging public and private infrastructure, buildings, and outdated technology that could not keep up with production needs. With the current introduction of casinos and other initiatives in the recreational and entertainment industry, Gary is undergoing a transition to a more service-based economy. At the same time, the Gary PMSA is increasingly serving as a residential community for former Chicago residents.

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<sup>15</sup> U.S. Department of Commerce, Bureau of Economic Analysis (BEA). 2004. Internet Web Site. <<http://www.bea.doc.gov/BEA/REGIONAL/reis>>.

**EXHIBIT 4-15**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**  
**Historical and Projected Per Capita Income (1998 Dollars)**

Year	Gary PMSA (a)	Chicago CMSA (b)	Gary PMSA Percent of Chicago CMSA Historic (c)	United States	Gary PMSA Percent of United States
1969	15,772	19,029	82.9%	15,616	101.0%
1970	15,548	19,041	81.7%	15,832	98.2%
1971	15,494	19,277	80.4%	16,077	96.4%
1972	16,544	20,125	82.2%	16,869	98.1%
1973	17,611	21,169	83.2%	17,749	99.2%
1974	17,909	21,092	84.9%	17,556	102.0%
1975	17,634	20,674	85.3%	17,449	101.1%
1976	18,675	21,570	86.6%	18,104	103.2%
1977	19,688	22,352	88.1%	18,611	105.8%
1978	20,595	23,146	89.0%	19,388	106.2%
1979	20,943	23,450	89.3%	19,793	105.8%
1980	19,867	23,069	86.1%	19,702	100.8%
1981	20,143	23,313	86.4%	20,026	100.6%
1982	19,197	22,922	83.7%	19,929	96.3%
1983	18,683	22,963	81.4%	20,128	92.8%
1984	19,137	24,223	79.0%	21,277	89.9%
1985	19,345	24,660	78.4%	21,817	88.7%
1986	19,447	25,374	76.6%	22,295	87.2%
1987	20,095	25,994	77.3%	22,618	88.8%
1988	20,850	26,835	77.7%	23,174	90.0%
1989	21,275	27,039	78.7%	23,531	90.4%
1990	21,422	27,222	78.7%	23,652	90.6%
1991	21,092	26,901	78.4%	23,287	90.6%
1992	21,389	27,707	77.2%	23,627	90.5%
1993	21,880	28,003	78.1%	23,837	91.8%
1994	22,572	28,582	79.0%	24,164	93.4%
1995	23,009	29,580	77.8%	24,795	92.8%
1996	23,618	30,266	78.0%	25,333	93.2%
1997	24,068	30,577	78.7%	25,808	93.3%
1998	24,947	31,878	78.3%	26,893	92.8%
1999	25,685	32,771	78.4%	27,880	92.1%
2000	27,282	35,028	77.9%	28,760	91.8%
2001	28,094	35,751	78.6%	30,413	92.4%
<b>Projections (d)</b>					
2005	26,725	33,763	79.2%	28,066	95.2%
2010	28,110	35,407	79.4%	29,479	95.4%
2015	29,302	36,807	79.6%	30,708	95.4%
2020	30,402	38,097	79.8%	31,863	95.4%
2025	31,453	39,303	80.0%	32,932	95.5%

(a) Includes Lake and Porter Counties.

(b) Includes Lake and Porter Counties in Indiana, and Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois and Kenosha County in Wisconsin.

(c) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS).

(d) U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS) growth rates applied to 1996 levels.

Source: Airport Master Plan, HNTB, 2001, U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (REIS) and Aerofinity analysis, February 2004.

## 4.4 PHYSICAL AND NATURAL ENVIRONMENT

The following provides a summary overview about the physical and natural environment in the study area. More detailed information is provided in Chapter 5, Environmental Consequences, of this EIS as specific potential types of environmental impacts are reviewed.

### 4.4.1 Topography and Geology

Elevations across the study area range from 580- to 600-feet above sea level. A general slope exists from the north and the south towards the Grand Calumet River, which runs through the middle of the study area.<sup>16</sup> Prior to urban development, a series of linear beach ridges and intervening swales, also known as dune/swale topography, dominated the surface topography. Fragmented due to the highly industrialized landscape, they now exist as a series of isolated areas of dune/swale topography, including five isolated areas within the study area.<sup>17</sup>

Limestone, dolomite, siltstone and shale from the Silurian age (approximately 440 to 410 million years ago) form the Wabash bedrock formation underlying the study area. The depth to bedrock ranges from approximately 100 to 150 feet below the present ground surface. The bedrock sequence is directly overlain with Quaternary windblown sand deposits related to glacial advances and retreats and post-glacial processes such as modern soil formation and human activities.<sup>18</sup>

### 4.4.2 General Ecological Communities

Gary/Chicago International Airport is located within the globally unique “dune and swale” ecosystem, which is officially designated as Alkaline Shoredunes Pond/Marsh, Great Lakes Type, and Barrens, Central Midwestern Type<sup>19</sup>. The surrounding natural sites are characterized by sand dunes separated by muck filled wet swales. These represent old beach ridges deposited during a higher stage of glacial Lake Michigan and are located inland from the modern lakeshore<sup>20</sup>.

The dune and swale ecosystem, also known as ridge and swale ecosystem, in the vicinity of the study area is unique. Boreal species and Atlantic coastal plain relict plants are found alongside western prairie species; this combination occurs nowhere else in the world. Unusual animals are also present.

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<sup>16</sup> United States Geological Survey (USGS), 1991. 7.5-minute Quadrangles Highland, Indiana, Whiting, Indiana, and Gary, Indiana. 1951, edited 1991.

<sup>17</sup> The Nature Conservancy and Ball State University. *Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*. 1999; Thompson, Todd. Indiana Geological Survey – Indiana University. Personal communication. September 10, 2002.

<sup>18</sup> Indiana Geological Survey (IGS), 2002. *After the Thaw and Bedrock Geology of Indiana*. Internet Web Sites. <<http://igs.indiana.edu/geology/ancient/afterthaw/index.cfm>> and <<http://igs.indiana.edu/geology/structure/bedrockgeology/index.cfm>>

<sup>19</sup> Gary/Chicago Airport Authority, prepared by HNTB Corporation. *Gary/Chicago Airport Master Plan Update*. November 2001. Letter of 9/17/1999 from S. Pruitt, U.S. Fish and Wildlife Service.

<sup>20</sup> Gary/Chicago Airport Authority, prepared by HNTB Corporation. *Gary/Chicago Airport Master Plan Update*. November 2001. Letter of 9/17/1999 from S. Pruitt, U.S. Fish and Wildlife Service.



Bird, reptile and amphibian species diversity is high, although relatively few mammals and fish occur. Large numbers of migrating birds pass through this area during the spring and fall.<sup>21</sup> The ridges and swales are divided by the Grand Calumet River into two distinct sections. The Lakeside Ridge and Swale Section is lakeward of the Grand Calumet River and is relatively younger than the Inland Ridge and Swale Section landward of the river<sup>22</sup>.

The Lakeside Ridge and Swale Section is relatively open and alkaline and includes sites with natural habitats such as the Clark and Pine complex. The ridges were formed within the modern day limits of lake level fluctuation within the past 6,000 years. A variety of wetland community types occur within the Lakeside Ridge and Swale section, often in earlier successional stages. Among these community types are globally rare pannes, which are characterized by an assemblage of rare plants that are adapted to calcareous or alkaline soil conditions. The ridges harbor upland communities such as globally rare sand prairie and sand savanna, depending upon moisture regime. There is exceptional biotic diversity in these areas where boreal and Atlantic coastal plain relicts occur together with prairie species more typical of the Great Plains<sup>23</sup>.

The Nature Conservancy found the greatest concentration of unique areas in the Great Lakes Basin in the Northwest Indiana area, the same area that the Region 5 office of the U.S. EPA found to be the most degraded in a six-state region that included Ohio, Michigan, Wisconsin, Minnesota, and Illinois<sup>24</sup>. U.S. EPA's Region 5 Critical Ecosystems Team ranked Lake County in the top category for number of critical ecosystems in Indiana. The Critical Ecosystems team also identified Northwest Indiana as one of five Indiana "Ecologically Rich Areas". Ecologically Rich Areas are geographic places having clusters of ecological community types and species and their associated landscapes that are unique, rare or threatened or that are valued for their long-term services to keep the environment healthy. The Great Lakes National Program Office of the U.S. EPA has identified Northwest Indiana as part of the Chicago Wilderness Biodiversity Investment Area<sup>25</sup>.

#### **4.4.3 Surface Water Resource**

The main surface water resource in the study area is the east branch of the Grand Calumet River. Approximately 90% of the river's flow originates as municipal and industrial effluent, cooling and process water and storm water overflows. The Grand Calumet drains into Lake Michigan through the Indiana Harbor Ship Canal. The U.S. Environmental Protection Agency (U.S. EPA) lists the impaired

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<sup>21</sup> The Nature Conservancy and Ball State University, Fall 1999, *Biodiversity Conservation Opportunities in the Tolleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*.

<sup>22</sup> National Park Service, Midwest Region. *Calumet Ecological Park Feasibility Study*. Draft Study Report, Prepared for Public Review and Comment by the Midwest Region National Park Service, USDOL. August 1998.

<sup>23</sup> National Park Service, Midwest Region. *Calumet Ecological Park Feasibility Study*. Draft Study Report, Prepared for Public Review and Comment by the Midwest Region National Park Service, USDOL. August 1998.

<sup>24</sup> Botts, Lee. 1998. Nature's Metropolis and Indiana. *Chicago Wilderness Magazine*. Internet Website. <[www.chicagowildernessmag.org/issues/winter1998/nature.html](http://www.chicagowildernessmag.org/issues/winter1998/nature.html)>.

<sup>25</sup> U.S. Environmental Protection Agency. *Ecologically Rich Areas (Draft)*, Critical Ecosystems Team. June 1999.

Grand Calumet River as an Area of Concern.<sup>26</sup> Several drainage ditches convey storm water runoff from the airport to the Grand Calumet.

Lake Michigan is the second largest fresh water body in North America. The lake offers deep water docking facilities and recreational opportunities. Buffington Harbor, located in Gary northwest of the airport, provides access to world markets for bulk cargos.

Nearly all of the water supply for Gary is withdrawn from Lake Michigan. Some industrial water is obtained from deep wells set in bedrock aquifers. The shallow water table and presence of permeable sands has resulted in the contamination of groundwater aquifers.<sup>27</sup> A number of wetlands are identified within the study area.

Approximately 411 acres of 100-year floodplain exist within the study area.<sup>28</sup> Also, the study area is located within the Coastal Zone of Lake Michigan<sup>29</sup>, but no coastal barriers exist in the vicinity of the study area as per the Coastal Barriers Resources Act of 1982 (PL 97-348). No waterways in the vicinity of the study area are protected as wild and scenic rivers.<sup>30</sup>

#### **4.4.4 Flora and Fauna**

Nine vegetative cover types, similar to those described by White (1978), are present within the study area: sand savanna, sand prairie, marsh, shrub swamp, panne, inland dune and swale, floodplain forest, urban vegetated, and urban unvegetated.<sup>31</sup> The diversity in habitat types along with physical conditions including topography, soils, geology and available water sources within and adjacent to the study area provides habitat for a number of wildlife species. Neither the study area nor nearby Lake Michigan provide essential fish habitat for any species managed under a Federal fishery management plan.<sup>32</sup> Fish and invertebrate communities within the Grand Calumet River are very poor with few individuals or species present, mostly introduced or tolerant forms.<sup>33</sup> According to recent letters from

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<sup>26</sup>U.S. Environmental Protection Agency. 2001. *Great Lakes Areas of Concern: Grand Calumet Area of Concern*. Internet Web Site. <<http://www.epa.gov/glnpo/aoc/grandcal.html>>.

<sup>27</sup> U.S. Geological Survey. 2002b. *Surface-Water and Ground-Water Hydrology and Contaminant Detections in Ground Water for a Natural Resource Damage Assessment of the Indiana Harbor Canal and Nearshore Lake Michigan Watersheds, Northwestern Indiana*. Prepared for the USFWS, Region 3.

<sup>28</sup> Federal Emergency Management Agency (FEMA), 1981. Flood Insurance Rate Map. City of Gary, Indiana. Lake County. Panel 18 of 19. March 16, 1981.

<sup>29</sup> National Oceanic and Atmospheric Administration (NOAA) and Indiana Department of Natural Resources (IDNR), 2002. *Combined Coastal Program Document and Final Environmental Impact Statement for the State of Indiana*. April 2002. Internet Web Site. <<http://www.state.in.us/dnr/lakemich/pdf/lmcp-feis.pdf>>.

<sup>30</sup> Gary/Chicago Airport Authority, prepared by HNTB Corporation. *Gary/Chicago Airport Master Plan Update*. November 2001.

<sup>31</sup> White, J. Illinois Natural Areas Inventory. Technical Report. Illinois Natural Areas Inventory, Urbana, IL. xix + 1978.

<sup>32</sup> National Marine Fisheries Service, Office of Habitat Conservation, 2001. *Essential Fish Habitat*. Internet Web Site. <<http://www.nmfs.noaa.gov/habitat/efh/>>.

<sup>33</sup> U.S. Fish and Wildlife Service. U.S. Fish and Wildlife Service Biological Report. *Pre-Remedial Biological and Water Quality Assessment of the East Branch of the Grand Calumet River Gary, Indiana*, June 1994.

the U.S. Fish and Wildlife Service and Indiana Department of Natural Resources,<sup>34</sup> no Federally listed and eleven state-listed endangered plant species occur or previously occurred in the study area vicinity. Several Federally- and state-listed endangered wildlife species, including the Karner blue butterfly (recently reintroduced to the area), may occur within the range of the study area. Nine areas that are classified as either high quality natural communities or significant natural areas exist within the study area boundary. There are 13 additional sites located in the vicinity of the study area that are classified as either high quality natural communities or significant natural areas.<sup>35</sup>

#### **4.4.5 Areas of Environmental Interest**

One publicly protected and managed natural area lies within the study boundary: land within the midfield triangle of the Gary/Chicago International Airport. Other areas of environmental interest are located within the study area. These areas, which are not publicly owned or not managed, include the City of Gary's Brunswick Center Savanna<sup>36</sup>, privately-owned Buffington Sand Prairie; both the East and West portions of The Nature Conservancy's Ivanhoe system, Clark and Pine Dune and Swale, Clark Junction South, Clark Junction Addition #1, and the South Shore Right of Way. Several natural areas also exist in the vicinity of the study area.<sup>37</sup> (See **Exhibit 4-16.**)

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<sup>34</sup> See Appendix A.

<sup>35</sup> Indiana Department of Natural Resources letter, dated May 27, 2003, see Appendix A.

<sup>36</sup> Restoration of approximately 13.5 acres of Brunswick Savannah is planned as a part of the mitigation for the Boeing Corporate Hangar construction. Restoration and protection of this area could begin in 2004 or 2005.

<sup>37</sup> The Nature Conservancy and Ball State University. *Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*. 1999.





Source: The Nature Conservancy and Ball State University, *Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*, Fall 1999; Aerofinity, Inc., 2002.

----- Study Area

North



Not to Scale



## EXHIBIT 4-16 Areas of Environmental Interest

April 8, 2004



Within the study boundary are two former dune and swale sites with extensive physical disturbance resulting in most of the natural topography being destroyed. These areas are the Asphalt Wetlands and the Vulcan site.

A 1999 collaboration of The Nature Conservancy and Ball State University<sup>38</sup> resulted in a document containing information on these areas of environmental interest. In this study, information has been compiled from a number of sources including habitat communities represented on the sites, protection/management status, and assigned grades for conditions of these habitats with respect to disturbance.

The individual tracts were classified into four categories – *Core Biodiversity Sites*, *Supplemental Biodiversity Sites*, *Supplemental Habitat*, and *Vacant Urban Land* (see **Exhibit 4-17**). The categories are based on size, habitat quality, and the extent of physical disturbance. These assessments are an attempt to characterize the habitat value of individual sites, the borders of which are established by the surrounding land use.<sup>39</sup>

<b>EXHIBIT 4-17 SITE CLASSIFICATIONS</b>			
<b>Site Characterization</b>	<b>Size</b>	<b>Habitat Quality</b>	<b>Physical Disturbance</b>
Core Biodiversity Site	Greater than 40 acres	Predominant cover grade B/C or higher	Moderate to light
Supplemental Biodiversity Site	Less than 40 acres	Predominant cover grade B/C or higher	Moderate to light
Supplemental Habitat	No size limit	Predominant cover grade C or lower; or where native communities have been destroyed a diverse assemblage of native species	Moderate to extensive
Vacant Urban Land	No size limit	Predominant cover exotic or limited native species	Extensive

*Source: Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success, The Nature Conservancy and Ball State University, Fall 1999.*

Information on the areas of environmental interest within, or in close proximity to the study area is included in **Exhibit 4-18**.

<sup>38</sup> The Nature Conservancy and Ball State University. *Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*. 1999.

<sup>39</sup> The Nature Conservancy and Ball State University. *Biodiversity Conservation Opportunities in the Toleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*. 1999.

**EXHIBIT 4-18**  
**GARY/CHICAGO INTERNATIONAL AIRPORT**

**Areas of Environmental Interest Within, or in Close Proximity to, Study Area Boundary**

	Environmental Interest Acres	Protected Acres	Public Non-managed	Private Non-managed	Approximate Proximity to Study Area Boundary
<b>Core Biodiversity Sites</b>					
Brunswick Center Savanna	71*	0	40	31	Within
Clark and Pine Nature Preserve	47	47	0	0	.12 mile
Clark and Pine East	257	257	0	0	.08 mile
Clark and Pine Dune and Swale	64	0	64	0	Within
Cline Avenue Dune and Swale	40	12	0	28	.05 mile
DuPont Dune and Swale	204	0	0	204	Partially within
Gibson Woods Nature Preserve	151	136	0	15	.27 mile
Ivanhoe Dune and Swale East	47	40	0	7	Within
Ivanhoe Dune and swale West	86	80	0	6	Within
Tolleston Ridges Nature Preserve	45	45	0	0	.3 mile
<b>Supplemental Biodiversity Sites</b>					
Lakeshore Railroad Prairie	23	0	0	23	.7 mile
Tolleston Ridges Conrail Unit	20	0	0	20	.25 mile
USX Prairie	26	0	0	26	1.06 miles
<b>Supplemental Habitat</b>					
Beemsterboer Tract (1)	46	0	0	46	.06 mile
Buffington Sand Prairie (2)	29	0	0	29	Within
Clark and Pine General Refractory Tract (4)	24	0	0	24	.015 mile
Clark Junction East (2)	23	0	0	23	.017 mile
Clark Junction South (3)	25	0	0	25	Within
Clark Junction West (1)	45	0	0	45	.01 mile
Clark Junction Addition #1(3)	7	0	0	7	Within
Clark Junction Addition #2 (2)	75	0	0	75	.01 mile
Explorer Pipeline Tract (1)	14	0	0	14	.6 mile
Gary/Chicago International Airport Wetlands (2)	108	0	108	0	Within
Gibson Railroad Prairie	17	0	0	17	.96 mile
Grand Calumet River Tern Site (3)	17	0	0	17	1.3 miles
Ivanhoe South (1)	56	6	0	50	.02 mile
Lakeshore Railroad Swale (2)	14	0	0	14	.8 mile
Penn Central Savanna (4)	19	0	0	19	.08 mile
Seidner Dune and Swale Nature (4)	57	57	0	0	1 mile
South Shore Railroad Right of Way (2)	41	0	0	41	Within
USS Lead Tract (4)	83	0	0	83	1.5 miles
<b>Vacant Urban Land</b>					
Asphalt Wetlands	146	0	0	146	Within
Georgia Pacific Tract	46	0	0	46	.04 mile
Gibson Woods East	51	0	0	51	.2 mile
Vulcan	22	0	0	22	Within

\* Restoration of approximately 13.5 acres of Brunswick Savannah is planned as a part of the mitigation for the Boeing Corporate Hangar construction. Restoration and protection of this area could begin in 2004 or 2005.

(1) Sites with intact dune and swale with grade C or lower natural communities, (2) Sites with moderate to extensive physical disturbance supporting a moderate to low diversity of native species that cannot be classified as natural communities, (3) Degraded wetlands, (4) A combination of the qualities listed above.

Source: *Biodiversity Conservation Opportunities in the Tolleston Strandplain of Northern Lake County, Indiana: A Strategic Plan for Conservation Success*, The Nature Conservancy and Ball State University, Fall 1999; Aerofinity revision to refer to areas as Environmental Interest Acres, 2003; Information about location in regard to study area provided by Aerofinity, 2004.

## 4.5 MANMADE ENVIRONMENTAL IMPACTS

Manmade development has had a significant influence on the study area. Some of this development has been detrimental to the natural environment and is now in the process of being remediated.

### 4.5.1 Impacted Areas Undergoing Cleanup

There are two sites in the study area that are currently undergoing cleanup activity. These areas, as shown on **Exhibit 4-19**, include the Conservation Chemical Company Site and the Midco II Site. In addition, the Ninth Avenue Site and the Midco I Site cleanup are within close proximity of the airport.

The Conservation Chemical Company Site is inline with the potential extension of Runway 12-30 with about half of the site actually to be paved under the proposed runway extension. Conservation Chemical Company recycled various chemicals and left many hazardous materials/conditions when operations ceased. A coalition of “potentially responsible parties (PRPs) removed all chemicals, tanks, buildings, and contaminated soils and installed a clay cap.” Lastly, the PRPs completed the installation of an interceptor gallery to prevent any potential offsite migration of contaminated groundwater. These actions began in July 1999 and were completed by December 2001. Ownership of the site has been transferred to the Gary/Chicago Airport Authority. There remains on the site a pool of approximately 250,000 gallons of liquid hydrocarbon free product above the water table. In late 2002, U.S. EPA Region 5 installed five extraction wells to remove this free product. After U.S. EPA Region 5 completes the removal of this free product, further remedial actions, if necessary will be undertaken to meet the acceptable levels of contaminants established in current regulations.<sup>40</sup> As a part of the airport's Proposed Action, the extraction wells would be modified so that they are inset and covered to maintain the compatibility of this ongoing clean-up operation with the operation of an extended or improved runway.

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<sup>40</sup> U.S. Environmental Protection Agency, Region 5. Interoffice Memo. *Reports of Significant Developments and Activities Ending on January 11, 2002*. January 18, 2002. Internet Web Site <http://www.epa.gov/reg5sfum/sfd/significant-actions/acrobat/2002/020111.pdf>.



Source: Aerofinity, Inc., 2003.

LEGEND	
Primary Area	
	Study Area Boundary
	Current Clean Up Sites
	Underground Pipeline



## EXHIBIT 4-19 Manmade Environmental Impacts

April 8, 2004



The Midco II superfund site operated for only seven months during 1977 storing waste solvents and other wastes in tank and drums, neutralized acids and caustics, and stored reclaimable materials. A fire in August 1977 destroyed the site including 50,000 to 60,000 drums. In 1981 U.S. EPA fenced the site and removed/cleaned the site surface during the six-year period from 1984-1989. Interaction with the PRPs began in 1985 but on site remediation actions did not begin until 1992. Groundwater extraction, treatment and deep well injection began in February 1996 and is currently ongoing. The cleanup of the groundwater is done in conjunction with Midco I where the injection well is located. This joint aspect of the remediation plan required the construction of an underground pipeline joining the two sites. This pipeline parallels the EJ&E Railway line that will be relocated. Since U.S. EPA expects this remediation program to last thirty years, the present location of this pipeline should be evaluated to see if it may interfere with the runway extension, which it transects.<sup>41</sup> As a part of the Proposed Action, the pipeline may be encased to assure its compatibility with the construction activities and its crossing under the runway or taxiway areas.

During the site surveillance of the Phase I investigation, signage observed indicated that an underground pipeline paralleling Cline Avenue existed. Also observed was an above ground out-of-service pipeline connection location. The visible open pipes are consistent with a metering station, pumping station or cleanout entry/exit station. This pipeline transects the runway safety zone of the extended runway.<sup>42</sup> From researching utilities in this area, it appears that this pipeline is a 30-inch NIPSCO natural gas line. Further utilities investigation is anticipated as a part of the rail relocation preliminary engineering.

Western Scrap Corporation occupies the corner of Chicago and Industrial Avenues and is included in the land acquisition area for the runway expansion. Limited observations during the Phase I investigation were made from the public roadways and the EJ&E Railway trackage. Piles of tires, auto parts and car bodies, a few tank trailers and above ground tanks and piles of scrap metal were observed. Tank contents, if any, or hazardous materials could not be ascertained from the limited and distant viewing distance. However, the site has had a history of environmental issues. Inspections in 1985 led to a cleanup that ended in 1989. More recently, U.S. EPA issued an enforcement order in March 1999 and IDEM issued an air pollution Notice of Violation based on a January, 2001 inspection.<sup>43</sup>

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<sup>41</sup> NPL Factsheets for Indiana: Midco II; Record of Decision System (RODS): Midco II; Telephone Conversation between Richard E. Boice, USEPA Region 5 and Thomas Blaszk, CWE on March 6, 2003.

<sup>42</sup> Gary/Chicago Airport Authority, prepared by Clean World Engineering, Ltd. *Draft Phase I Environmental Site Assessment of Properties Located within the Runway Extension Zone Northwest of Gary/Chicago Airport*, Gary, Indiana. November 2002.

<sup>43</sup> Gary/Chicago Airport Authority, prepared by Clean World Engineering, Ltd. *Phase I Report of Area Northwest of Gary/Chicago Airport; CERCLIS Hazardous Waste Sites: Western Scrap Corp.; IDEM Office of Enforcement Monthly Actions and Orders: Western Scrap Corp.*

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